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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,216	05/12/2006	Masaki Fukumori	Q94896	1179
23373 7590 07/31/2008 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER				
REDDY, KARUNA P				
ART UNIT		PAPER NUMBER		
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07/31/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/579,216

Applicant(s)

FUKUMORI ET AL.

Examiner

KARUNA P. REDDY

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/1/2008 has been entered. Claim 1 is amended; and claims 2-3 are cancelled. Accordingly, claims 1, 4-11 are currently pending in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 1, 4-8 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al (US 6, 472, 019 B1) in view of Di Giaimo (US 3, 496, 134).

Yamaguchi et al disclose a treated textile involving the step of applying treatment liquid, wherein the treatment liquid contains a water- and oil-repelling agent (abstract). The water and oil-repelling agent is generally a fluorine containing compound. The fluorine containing compound is a fluorine containing polymer. The fluorine containing polymer may be a polymer comprising a repeat unit derived from a fluoroalkyl group containing monomer such as fluoroalkyl group containing (meth)acrylate (column 2, lines 22). The fluorine containing polymer may be a copolymer comprising (A-I) a repeat unit derived from a monomer having a fluoroalkyl group, (A-II) a repeat unit derived from

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vinyl chloride and/or vinylidene chloride and (A-III) a repeat unit derived from a fluorine free monomer (column 7, lines 25-33). Various emulsifying agents such as nonionic emulsifying agent can be used (column 9, lines 43-46).

Yamaguchi et al is silent with respect to use of a combination of at least one epoxy compound selected from epoxidized vegetable oil or epoxidized fatty acid, and at least one weakly basic compound as hydrochloric acid-trapping compound.

However, Di Giaimo teaches that the well recognized sensitivity of polyvinyl chloride i.e. halogen containing polymers to light and heat is dealt with by the addition of heat or light stabilizers. Conventional heat stabilizers are sodium carbonate, barium stearate which reads on the metal salt of an acid of present claims and an organic epoxy hydrochlorophyl (column 1, lines 39-43, lines 49-50) such as epoxidized soybean oil (column 3, line 1-2). Heat or light stabilizers read on the hydrochloric acid-trapping compound of present claims. Therefore, it would have been obvious to add a combination of heat or light stabilizers of Di Giaimo to halogen containing polymers of Yamaguchi et al to prevent degradation owing to sensitivity of polyvinyl chloride to light. Court held that it is prima facie obvious to combine two ingredients, each of which is targeted by the prior art to be useful for the same purpose. See *In re Lindner* 457 F.2d 506, 509, 173 USPQ 356, 359 (CCPA 1972).

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al (US 6, 472, 019 B1) in view of Di Giaimo (US 3, 496, 134) in view of Snyder (US 3, 617, 188).

The discussion with respect to Yamaguchi et al in view of Di Giaimo in paragraph 3 above is incorporated herein by reference.

Yamaguchi et al is silent with respect to three different nonionic surfactants.

However, Snyder teaches a mineral oil composition in conjunction with other compositions such as those which impart permanent press and water-repellency characteristics to a textile material (abstract). The selection of a suitable emulsifying agent for forming the emulsion concentrate is dependent on the method by which the mineral oil is applied to the textile material. In general preferred emulsifiers are nonionic. It has been found that the desired stability can be achieved by using a blend of different nonionic emulsifiers. Therefore, it would have been obvious to use a blend of three different nonionic emulsifiers to obtain the desired stability.

Response to Arguments

5. Applicant's arguments, filed 5/30/2008, with respect to objection have been fully considered and are persuasive. The objection of claim 2 has been withdrawn in view of the cancellation of claim 2.
6. Applicant's arguments filed 5/30/2008 with respect to prior art rejection in paragraphs 4 and 5 of office action mailed 1/2/2008 have been fully considered but they are not persuasive. Specifically, applicant argues that (A) Di Giaimo does not teach or suggest the specific combination of (a) an epoxy compound selected from the group consisting of an epoxidized vegetable oil and an epoxidized fatty acid ester with (b) at least one weakly basic compound. (B) unexpectedly superior effect of the claimed combination is

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shown by reference to working examples 1, 2, 5, 6 and 8 in comparison with examples 11 and 12. The water repellency and oil repellency of the dispersion after one month at 50°C in examples 11 and 12 which uses either epoxidized soybean oil or a sodium hydrogen carbonate is inferior to that in examples 1,2, 5, 6 and 8 where a combination of epoxidized soybean oil and sodium hydrogen carbonate is used.

With respect to (A), it is known from the teachings of Di Giaimo that conventional heat stabilizers include sodium carbonate i.e. metal salt of an acid, and an organic epoxy hydrochlorophyl (column 1, lines 39-43, lines 49-50) such as epoxidized soybean oil (column 3, line 1-2). Court held that it is prima facie obvious to combine two ingredients, each of which is targeted by the prior art to be useful for the same purpose. See *In re Lindner* 457 F.2d 506,509, 173 USPQ 356, 359 (CCPA 1972).

With respect to (B), it is noted that proper side-by-side trial runs require that all components and conditions remain the same with inventive feature being the only variable which in the present claims is a combination of epoxy compound selected from epoxidized vegetable oil and epoxidized fatty acid ester, and at least one weakly basic compound (e.g. sodium hydrogen carbonate) as hydrochloric acid trapping compound. Data from the present invention is presented below for convenience -

	Epoxidized soybean oil	NaHCO ₃	Oil repellency	Water repellency	Total (HCl trapping compd.)
Example 1	10 g	0.7 g	5	4	10.7 g
Example 2	10 g	0.7 g	5	4	10.7 g
Example 5	10 g	1.5 g	5	4	11.5 g
Example 6	10 g	0.7 g	5	4	10.7 g

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Example 8	10 g	0.9 g ¹	4	3	10.9 g
Example 11	10 g		4	3	10 g
Example 12		0.7 g	4	3	0.7 g
Example 4 ²	10 g	0.4 g	4	3	10.4 g

¹ Na₂CO₃ is used instead of NaHCO₃.

¹ Chlorine containing polymerizable compound is Stearyl α -chloroacrylate.

As can be seen from the data above, trial runs are not conducted in a side-by-side manner i.e. total amount of HCl trapping compound used is not the same in inventive examples 1, 2, 5, 6 and 8; and comparative examples 11 and 12. Therefore, it is not clear if it is the amount of HCl trapping compound or the combination of epoxy compound selected from epoxidized vegetable oil and epoxidized fatty acid ester, and sodium hydrogen carbonate, is responsible for the differences in oil and water repellency behavior.

Furthermore, example 4 (chlorine containing polymerizable compound is stearyl α -chloroacrylate instead of vinyl chloride) which uses a combination of epoxidized soybean oil and NaHCO₃ as the HCl trapping compound, and example 8 (chlorine containing polymerizable compound is vinyl chloride) which uses a combination of epoxidized soybean oil and Na₂CO₃, oil and water repellency is the same as the comparative examples 11 and 12. Therefore, applicant's allegation of unexpected superior results when a combination of epoxidized soybean oil, and NaHCO₃ or Na₂CO₃ is used as the HCl trapping compound is without merit and not commensurate in scope with the present claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARUNA P. REDDY whose telephone number is (571)272-6566. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Karuna P Reddy/
Examiner, Art Unit 1796